

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-42, 47, and 48 are presently active; Claims 43-46, 49, and 50 having been withdrawn by a Restriction Requirement, and Claim 1 has been presently amended.

In the outstanding Office Action, the drawings were objected to. Claim 24 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 19-24 were rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Claims 1, 7, 8, 11-16, 25, 27, 33, 35, and 47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2003/0055523 to Bunkofske et al in view U.S. Publication No. 2002/0107858 to Lundahl et al and further in view of U.S. Publication No. 2005/0055175 to Jahns et al. Claims 2-6, 19-23, 26, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bunkofske et al in view of Lundahl et al, and Jahns et al and further in view of U.S. Pat. No. 6,622,059 to Toprac et al. Claims 9, 10, 28, and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bunkofske et al in view of Lundahl et al, and Jahns et al and further in view of U.S. Pat. No. 5,796,606 to Spring. Claims 17, 18, 29-32, 37-42, and 48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bunkofske et al in view of Lundahl et al and Jahns et al and further in view of U.S. Publication No. 2003/0144746 to Hsiung et al. Claim 24 was rejected under 35 U.S.C. § 102(a) as being unpatentable over Bunkofske et al, Lundahl et al, Jahns et al, and Toprac et al in view of U.S. Pat. No. 5,796,6007 to Spring.

Firstly, Applicant acknowledges with appreciation the courtesy of Examiner West to interview this case on March 14, 2006 during which time the issues in the Office Action were discussed, as substantially summarized here below.

Regarding the objection to the drawings, the specification has been amended to change in paragraph [0039] “process chamber 16” to --process chamber 10--, as shown in the drawings. Thus, it is respectfully submitted that the objection to the drawings has been overcome.

Regarding the 35 U.S.C. § 112 as discussed during the interview, second paragraph, rejection to Claim 24, Claim 24 has been amended to address the issue identified in the Office Action. Thus, it is respectfully submitted that the 35 U.S.C. § 112, second paragraph, rejection has been overcome.

Regarding the statutory rejection, Claim 19 has been amended to define the utilization of an update adaptive centering coefficient, as discussed during the interview. Hence, it is respectfully submitted that Claims 19-24 are statutory.

Regarding the rejections on the merits, Claim 1 as clarified defines the step of adjusting centering coefficients occurs at the time of each observation of additional data.

The outstanding Office Action acknowledges on page 6, lines 15-21, that Bunkofske et al and Lundahl et al do not teach acquiring additional data from the processing system to form an adjusted centering coefficient. The Office Action asserts on pages 6-7 that Jahns et al teaches industrial process fault detection using principle component analysis (PCA) in which additional data is acquired from the processing system after construction of the PCA model and producing updated models using both previous run data from the initial data and current data obtained as additional data. The Office Action references numbered paragraph [0044] to numbered paragraph [0046] in Jahns et al as teaching the additional data acquisition.

However, as discussed during the interview, that disclosure in Jahns et al for a “periodically updated matrix” is detailed in Step 310 and updates the data every 50 new scans.

Thus, the periodic update in Jahn et al differs from that of the present invention that updates the centering coefficient at the time of each observation of additional data. Specific

support for this clarification is found in numbered paragraph [0095] of Applicant's specification:

Hence, a combination of Bunkofske, Lundahl et al, and Jahns et al would not produce or suggest the claimed invention.

Furthermore, the feature added to Claim 1 is similar to the "for each data parameter" recited in Claim 2 that was rejected over Toprac et al. As discussed during the interview, Jahns et al update the process model after every 50 new scans. To modify Jahns et al to update at the time of each observation of the additional data (i.e. for each data parameter) would teach away from Jahns et al.

Moreover, the data shown in Figures 4A-4B of Jahns et al shows two aspects pertinent to whether one of ordinary skill in the art would have been motivated at the time of the invention to modify Jahns et al. First, the standard deviation shows little drift in Figure 4A and a slow progressive drift in Figure 4B. These slow drifts would not require that the process in Jahns et al be updated for each data parameter in order to properly control the process. Second, both sets of data in Figures 4A and 4B show anomalous data spikes. If one of ordinary skill in the art were to modify Jahns et al to update the model for each data point, the update following the anomalous point would produce an anomalous process control model and render Jahns et al unsatisfactory for its intended purposes.

Thus, Claims 1, 19, 25, 33, 41, 47, and 48 and the claims dependent therefrom are believed to patentably define over the references in the outstanding Office Action.

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Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Customer Number
22850



Steven P. Weihrouck
Attorney of Record
Registration No. 32,829

Ronald A. Rudder, Ph. D.
Registration No. 45,618

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/03)
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